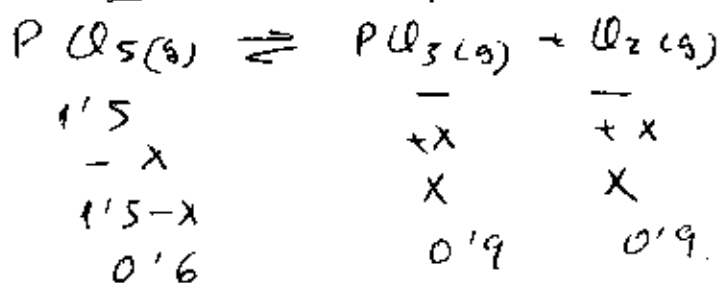


Problems Equilibri. Q.

(10) $V = 32$
 $T = 390 K$
 $P = 25.6 \text{ atm}$
 $\alpha = 0.6$

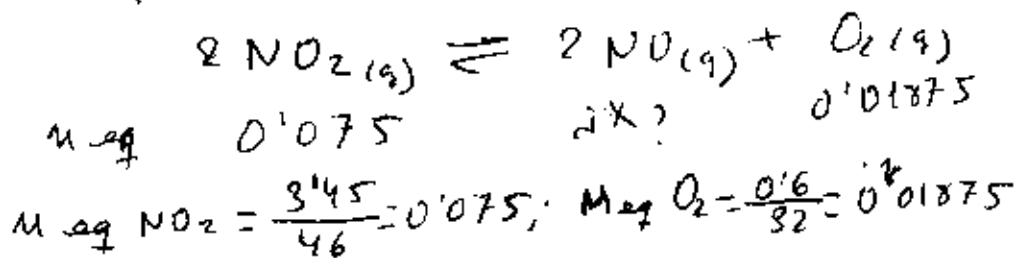


$0.6 = \frac{x}{1.5}; x = 0.9$

$K_c = \frac{[P \text{ (g)}] \cdot [O_2 \text{ (g)}]}{[P \text{ (g)}]}$; $K_c = \frac{\left(\frac{0.9}{3}\right)^2}{\frac{0.6}{0.3}} = 0.45$

$K_p = K_c \cdot (RT)^1$; $K_p = 0.45 \cdot 0.082 \cdot 390 = 14.39$

(11) $V = 52$
 $P = 1 \text{ atm}$
 $T = 600.15 K$



$n_T = \frac{1.5}{0.082 \cdot 600.15} = 0.102$; $0.075 + x + 0.01875 = 0.102$
 $x = 0.00785$

a) $K_c = \frac{[NO]^2 \cdot [O_2]}{[NO_2]^2}$; $K_c = \frac{\left(\frac{0.00785}{5}\right)^2 \cdot \frac{0.01875}{5}}{\left(\frac{0.075}{5}\right)^2} = 4.1 \cdot 10^{-5}$

b) $P_{NO_2} = \frac{0.075 \cdot 0.082 \cdot 600.15}{5} = 0.738 \text{ atm}$

$P_{NO} = \frac{0.00785 \cdot 0.082 \cdot 600.15}{5} = 0.077 \text{ atm}$

$P_{O_2} = \frac{0.01875 \cdot 0.082 \cdot 600.15}{5} = 0.185 \text{ atm}$

$P_{NO_2} + P_{NO} + P_{O_2} = P_T$

$0.738 + 0.077 + 0.185 = 1 \text{ atm}$